

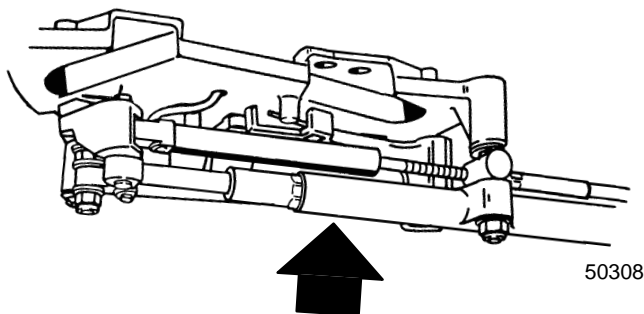
TO: SERVICE MANAGER TECHNICIANS
PARTS MANAGER

No. 88-19

REVISED
3-27-89

Alpha One Shift Assist Assembly and Remote Control Shift Cable Adjustment

All Alpha One models manufactured January 1989 and later will be equipped with a Shift Assist Assembly as standard equipment. (Figure 1) This device serves to assist in locating the neutral position, and helps to enhance the shift operation when coming out of gear.



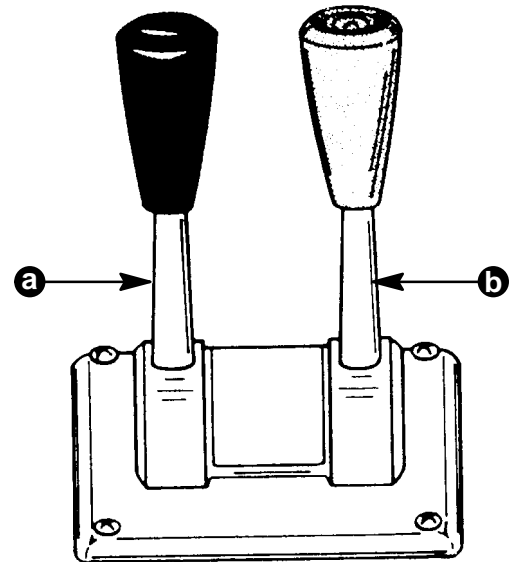
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Figure 1. Shift Assist Assembly

IMPORTANT: If boat is equipped with a REMOTE CONTROL THAT HAS SEPARATE SHIFT AND THROTTLE LEVERS. The Shift Assist Assembly MUST NOT be used. The use of the shift assist assembly with this type of remote control can cause the shift lever to move out of gear unexpectedly.

This shift assist assembly must only be used with a single lever remote control, do not use on applications with a two lever remote control (Figure 2) (separate shift and throttle levers) because the device may cause the drive unit to come out of gear during operation.

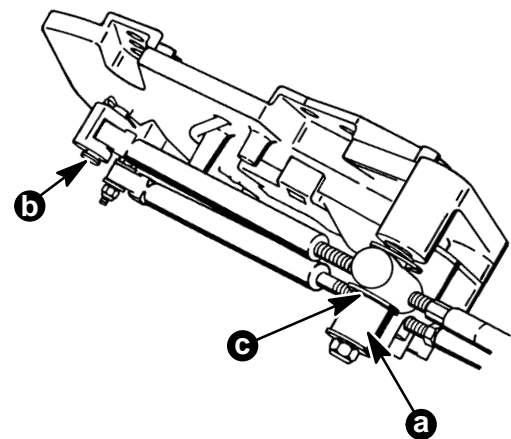
On single station applications with a two lever control (Figure 2), or on dual station applications where only one shift cable is attached to the shift plate, the Shift Assist Assembly must be removed. Hardware shown in Figure 3 is required to properly connect the cable when the Shift Assist Assembly isn't used. Order kit number 23-11284A1.



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a - Shift Lever
b - Throttle Lever

Figure 2. Shift Assist Assembly Cannot Be Used on this Type of Control



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a - Spacer, 23-11284
b - Clevis Pin, 17-68402
c - Washer, 12-56720

Figure 3. Two-Lever Remote Control Shift Cable Attachment (Kit 23-11284A1)

Using the following instructions make the pre-delivery preparations.

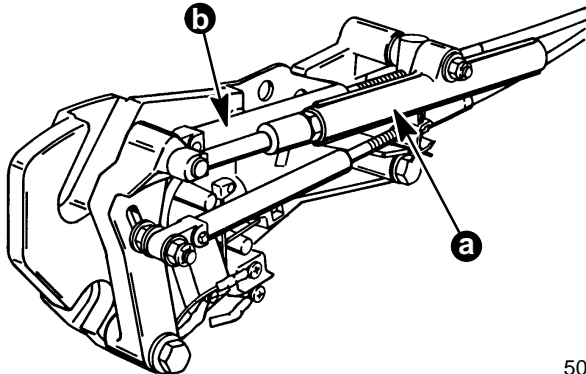
Predelivery Preparation

REMOTE CONTROL SHIFT CABLE ADJUSTMENT – ALPHA ONE

IMPORTANT: Drive unit must be installed.

IMPORTANT: DO NOT run engine.

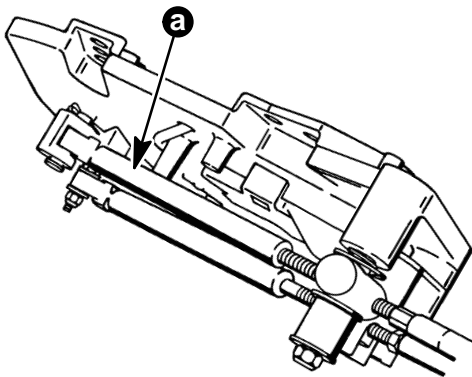
1. Remove remote control shift cable and shift assist assembly (if installed).



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- a - Shift Assist Assembly
- b - Remote Control Shift Cable

With Shift Assist Assembly

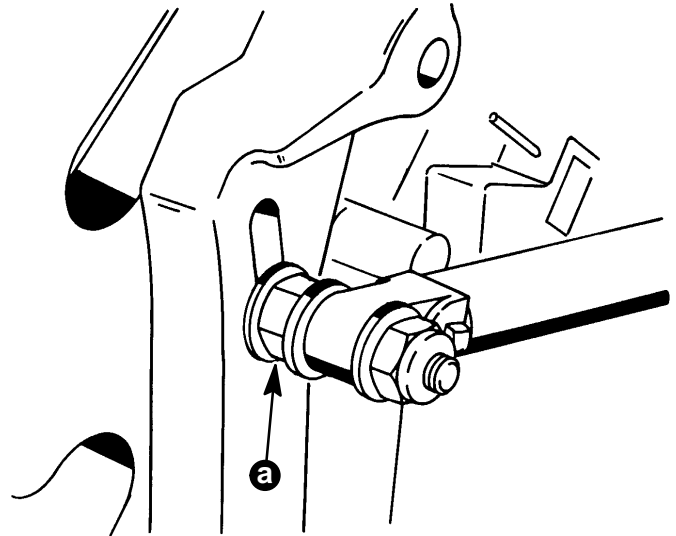


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- a - Remote Control Shift Cable

Without Shift Assist Assembly

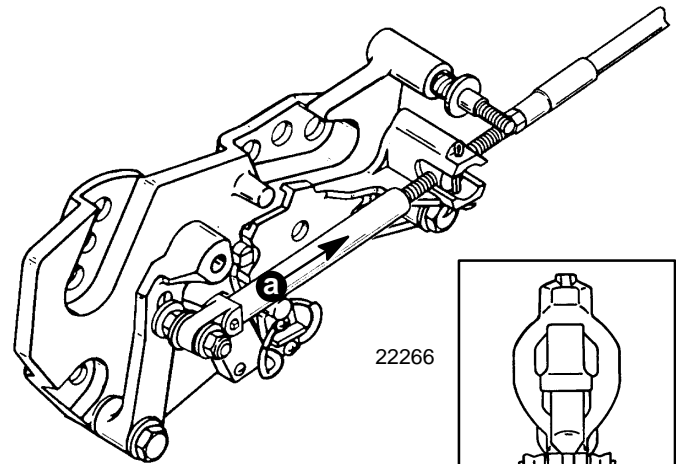
2. Ensure shift lever adjustable stud is at bottom of slot. If necessary, loosen stud and move it to bottom of slot, then retighten stud.



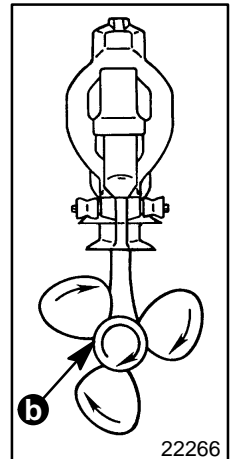
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- a - Adjustable Stud

3. Place drive unit into forward gear by pushing in on drive unit shift cable, while simultaneously rotating propeller shaft counterclockwise until shaft stops, to ensure full clutch engagement.



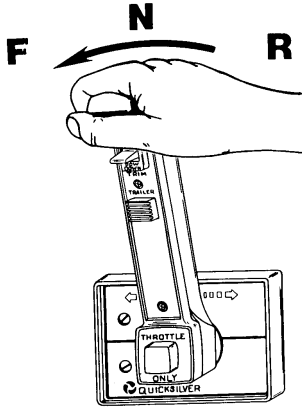
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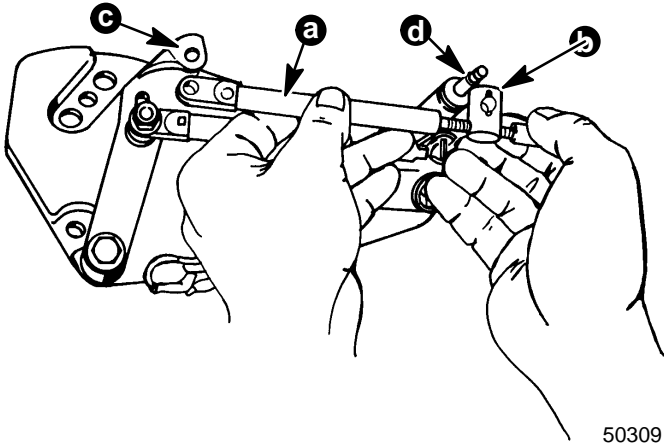
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- a - Drive Unit Shift Cable - Push In
- b - Propeller Shaft - Rotate Counterclockwise

- Place remote control into **forward gear, wide-open-throttle position**.



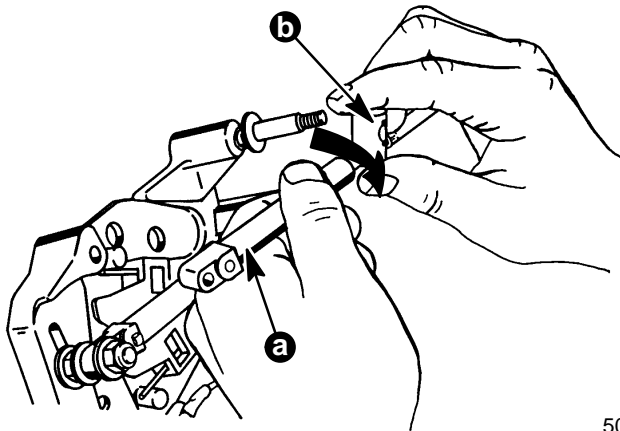
- Lightly pull on remote control shift cable end guide (to remove slack from remote control and cable) and adjust brass barrel as necessary to align attaching points with shift lever clevis pin hole and stud.



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- a - End Guide
- b - Brass Barrel
- c - Shift Lever Clevis Pin Hole
- d - Stud

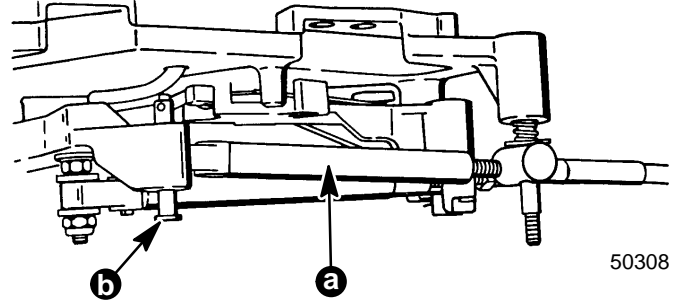
- After cable has been aligned, turn brass barrel 4 turns **away** from cable end guide.



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- a - End Guide
- b - Brass Barrel

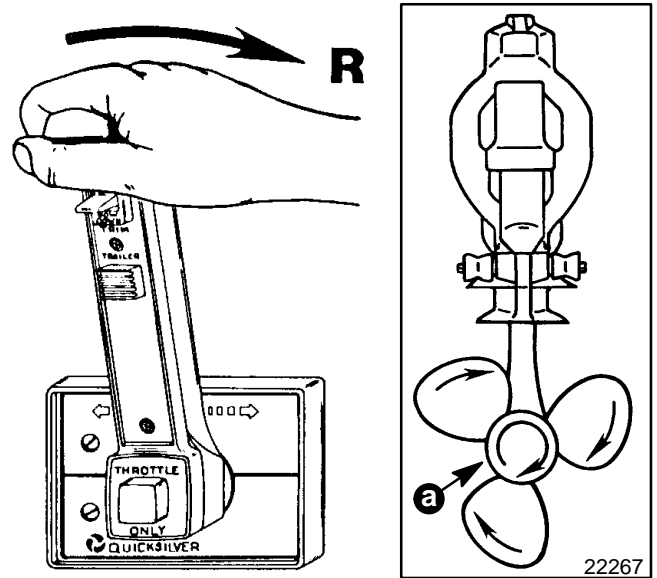
- Temporarily install remote control shift cable on stud and install clevis pin.



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- a - Remote Control Shift Cable
- b - Clevis Pin

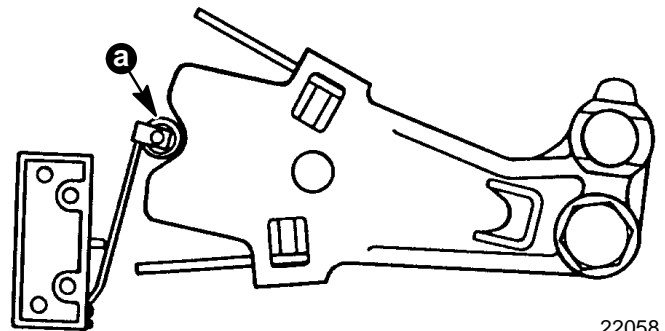
- Shift remote control into **reverse gear, wide-open-throttle position**, while simultaneously rotating propeller shaft clockwise until shaft stops to ensure full clutch engagement.



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- a - Propeller Shaft - Rotate Clockwise

- Check shift cutout switch lever position. Roller must be centered.



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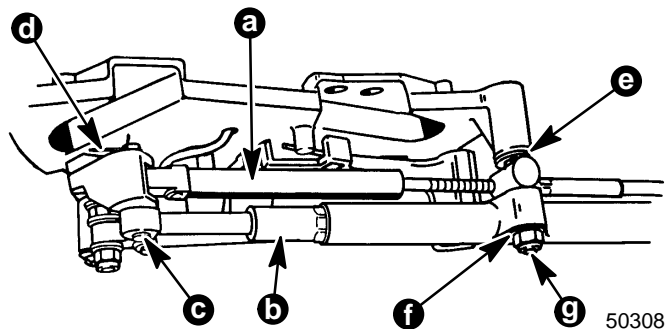
- a - Shift Cutout Switch Roller

10. If roller is not centered:

- a. Check to ensure adjustable stud is at bottom of slot in shift lever.
- b. Shift Assist Assembly must be attached to shift plate and lever to check remote control for proper shift cable output 2-7/8" (7.30mm) 3-1/8" (7.94mm) ± 1/8" (3.18mm).
- c. If "a" and "b" are correct, check to ensure drive unit shift cable is not crushed or kinked. (If drive unit shift cable is binding, the shift cutout switch roller will move off center when shifting "into" and "out of" forward **and** reverse).

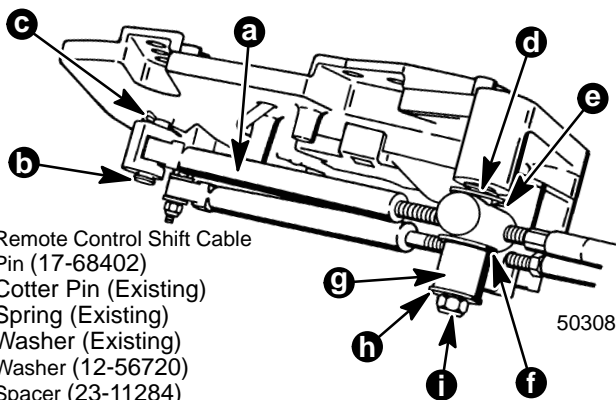
NOTE: If shift cable was damaged during installation, install new shift cable assembly in accordance with instructions contained in stern drive service manual, then repeat shift cable adjustment procedure.

11. After remote control shift cable has been properly adjusted, shift remote control into neutral position, reinstall cable and shift assist assembly (if applicable) and secure with hardware as shown.



- a - Remote Control Shift Cable
- b - Shift Assist Assembly
- c - Clevis Pin
- d - Cotter Pin - (Spread Both Prongs)
- e - Large I.D. Washer
- f - Small I.D. Washer
- g - Locknut - (Tighten Until Bottomed)

With Shift Assist Assembly



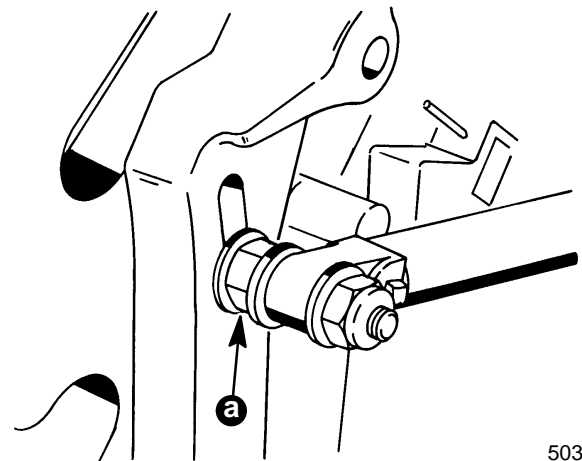
- a - Remote Control Shift Cable
- b - Pin (17-68402)
- c - Cotter Pin (Existing)
- d - Spring (Existing)
- e - Washer (Existing)
- f - Washer (12-56720)
- g - Spacer (23-11284)
- h - Washer (Existing)
- i - Locknut (Existing) - Tighten Until Bottomed, Then Back off 1 Turn

Without Shift Assist Assembly

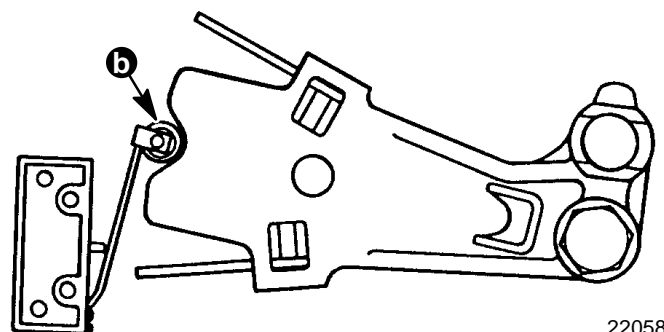
IMPORTANT: If an extra long remote control shift cable is used, or if there are a large number of bends in remote control shift cable, or remote control has inadequate output travel, an additional adjustment may be necessary. Refer to step 12 or 13 as applicable.

12. **Remote Control with Single Lever Shift/ Throttle Control:** Shift remote control into reverse gear, wide open throttle position while simultaneously rotating propeller shaft clockwise. Clutch should engage and cause propeller shaft to lock. If clutch does not engage, loosen adjustable stud on shift lever and move it upward in slot until clutch engages with reverse gear. Retighten stud. Shift remote control several times and stop in reverse to recheck shift cutout switch position. Roller must be centered.

13. **Remote Control with Separate Shift and Throttle Levers:** While turning propeller shaft clockwise, move remote control shift handle into full reverse position. Clutch should engage before shift lever comes to a stop. If clutch does not engage, loosen adjustable stud on shift lever and move it upward in slot until clutch engages with reverse gear. Retighten stud. Shift remote control several times and stop in reverse to recheck shift cutout switch position. Roller must be centered.



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- a - Adjustable Stud
- b - Shift Cutout Switch Roller